## Wilkhahn

## Consolidated environmental statement **2017–2019** with sustainability report





### Simply the best: Where form and function go hand in hand.

When Friedrich Hahne and Christian Wilkening founded their company in the north of Germany in 1907, they couldn't have guessed that it would one day be one of the most internationally famous office furniture manufacturers and that many items of Wilkhahn furniture would write design history. With their unbending desire for quality in terms of materials and craftsmanship, they laid the cornerstone for today's leadership in the premium office and conference furniture segment. It was my father, Fritz Hahne, who turned Wilkhahn into a pioneer of German industrial design. We tap into international markets on this basis right up until today by using new materials and employing a typical design language that we're consistently evolving. We fostered a corporate culture that included ethical dimensions of design very early on: fairness and ecological responsibility make us a multi-award-winning pioneer in terms of sustainability too. These characteristics manifest themselves in the architecture of the plant's buildings that were designed by Frei Otto and Thomas Herzog and others. They are reflected in the way people interact, which is all about working with and for people. And they're apparent in the furniture that provides enduring responses to relevant issues about the future. Yesterday, today and tomorrow.

Particularly in digitalised office environments, the way offices are designed is becoming increasingly important. Because here it's all about how people collaborate as their skills, commitment and well-being have been critical success factors for some time now. What is now the focus of modern office concepts has motivated us for decades to develop attractive furniture that allows people to identify with the place they work in. Concepts that convey appreciation and offer the best possible professional workspaces to suit the jobs they do. We focus on three key areas: firstly, diverse ranges of office chairs that offer natural ranges of motion to stimulate both body and mind when long periods of time are spent in front of computers. Secondly, solutions for conference, seminar and project spaces that encourage learning and developing ideas as a team. And thirdly: attractive break-out areas that encourage people to meet and talk. Inspiring people to contribute to a team effort is an ideal way of paving the way for the future.

We strive to develop excellent, timeless solutions, both in terms of form and function - and this is what makes us successful all over the world today. Around 70 percent of our business is in international markets. Customers worldwide appreciate our products for the special combination of pioneering functionality, guality that's discernible down to the last detail and timeless designs. We believe that good design shouldn't reveal the effort exerted to translate a complex task for the user into the simplest solution conceivable. Which is why we work closely with researchers and architects all over the world – and we enjoying doing so. We, our customers and partners are proud of the feeling that we're giving the world something that's new and better. In the competition for the best talents, these characteristics of office-environment design are becoming increasingly crucial in order to put across brand and corporate values each and every day - and to convey reliability and a sense of belonging too. The fact that the design never looks outdated makes Wilkhahn furniture an economical alternative too - because good design endures.

Dr Jochen Hahne President

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#### Wilkhahn supports the **UN Global Compact**

Wilkhahn is committed to sustainable development objectives throughout all areas of its business.

In December 2007, Wilkhahn joined the UN Global Compact, making the policy of responsible management mandatory for all areas of the company. Wilkhahn perceives corporate responsibility as a management philosophy which strives to strike an acceptable balance between the requirements of the various stakeholders.



#### The ten principles of the UN Global Compact

#### Human rights

Principle 1:

Companies are to support and observe international human rights within their spheres of influence and Principle 2: ensure that they are not guilty of complicity in infringing human rights.

#### Labour standards

Principle 3: Businesses are to uphold the freedom of association and the effective recognition of the right to collective bargaining as well as under: Principle 4: eradicating all forms of forced labour, Principle 5: stopping child labour and Principle 6: eliminating discrimination when recruiting and employing people.

#### **Environmental protection**

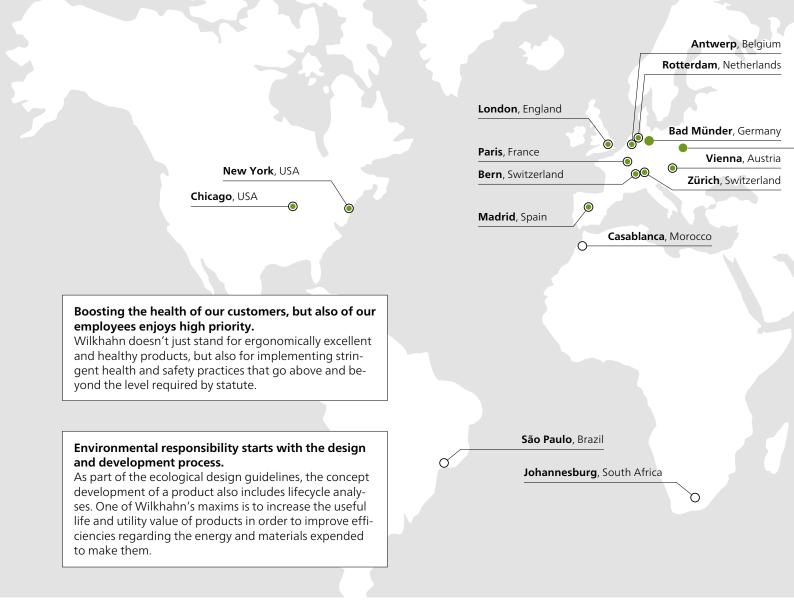
Principle 7:

Businesses are to support a precautionary approach to environmental problems, Principle 8: Adopting initiatives to generate a greater sense of responsibility for the environment and Principle 9:

encouraging the development and spread of eco-friendly technologies.

#### Fighting corruption

Principle 10: Businesses should stand up against corruption in all its forms, including extortion and bribery.



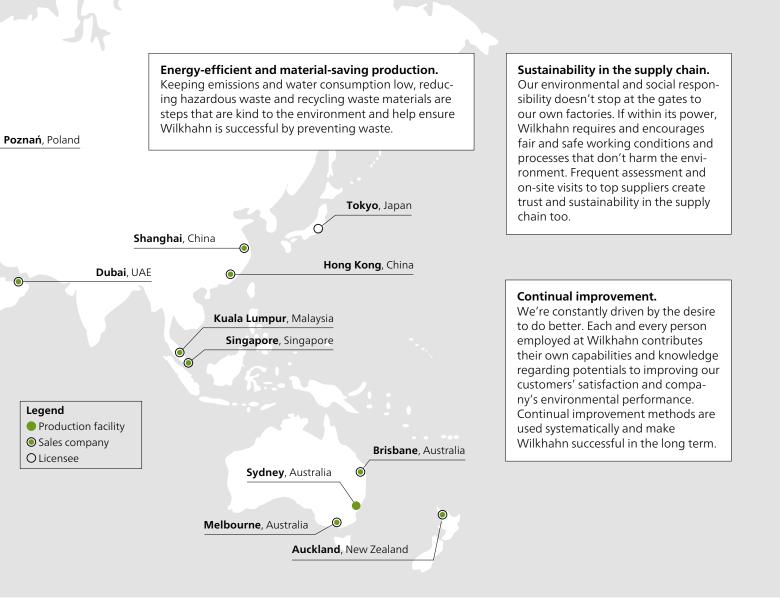
## A premium company and global player.

Wilkhahn was founded in 1907. The company's purpose is to develop, manufacture and market advanced, highquality and superbly designed office chairs and table solutions that encourage a feeling of well-being, health, creativity and performance.

The Wilkhahn brand stands for first-class product quality, highly innovative ergonomics and cutting-edge design worldwide. Acclaimed worldwide, the durability and ecofriendly concept of products and services play a significant role in protecting resources.

In 2016, 465 employees generated sales of EUR 94.6 million, 70 percent of which stemmed from international markets. The company has production facilities at the headquarters in Bad Münder, as well as in Poznań in Poland and Sydney in Australia. Annual production capacity at headquarters can handle 100,000 office task chairs, 120,000 visitor and conference chairs, as well as 30,000 table tops and table systems. Worldwide sales are made via the company's own subsidiaries and sales agencies. Retailers, export and licence partners are also part of the mix. As a result, Wilkhahn is present on all continents.

The self-financed, family-run company is privately owned. Current and former employees are shareholders of a sleeping partnership that has a seat and vote on the Wilkhahn supervisory board. Wilkhahn has holdings in wiege Entwicklungsgesellschaft mbH (design studio), Foresee™ GmbH for Human Active Spaces (Roomware®).



## Corporate policy.

As a globally leading manufacturer of high-quality office chairs, seating and table solutions which foster health, a feeling of well-being, creativity and success, we reaffirm our status as a premium supplier each and every day. Wilkhahn inspires enthusiasm worldwide thanks to superb products, a motivated team and a value-based style of corporate management. Trust and reliability, listening to customers, commitment, simplicity, sustainability and the desire for what is new are guiding principles of Wilkhahn's corporate culture. We see these corporate values as joint fundamental convictions that are shared, practised and developed by the whole organisation worldwide.

Product design to last is our antidote to the throw-away society. Therefore, Wilkhahn products focus on providing maximum utility value, durability and protecting resources. This means top quality that can be experienced, is consistent and perfect. It delivers timeless, distinctive design that is fascinating due to its simplicity, honesty and appeal to all the senses. Pioneering innovations are included that really give our customers constant added value in terms of ergonomics and handling. The fact that our products are extremely practical, easy to disassemble and components are exchangeable ensures they are resource-efficient. Our approach is international. We guarantee excellent advice, presentation and availability of products and services in the relevant markets worldwide. And we consider working with other cultures a bonus and an opportunity to grow. We have clients all over the world who place high priority on the design of their working environments. Our business rationale's key objective is to support these people's needs professionally and engender enthusiasm for Wilkhahn. We also want to gain loyal partners, customers and friends by reliably fulfilling specifications.

We believe that fairness towards people and the environment belong together. Wilkhahn is committed to the principles of the UN Global Compact. This includes respecting and fostering human rights and keeping to and encouraging good international labour standards. We also take a stand against any form of corruption and constantly improve our company's environmental impact by taking precautionary measures and complying with current environmental legislation.

## Design principles.

"A poor and superfluous product will remain poor and superfluous, even if it's produced in an ecologically friendly manner".

#### Three important factors

Because the world's population is growing and people justifiably want a share in the wealth created, strategies that are only concerned with the ecological quality of products are heading up a blind alley. Since the middle of the last century less is more has been a design goal that focused on the less aspect and making products better. The famous Ulm University of Design's founding manifesto back in the early 1950s already showed the sustainable direction in terms of product design that Wilkhahn wanted to pursue: "The goal is to develop durable products, increase their utility value and reduce waste". We know that nowadays three factors above all decide on how long a product will last: pioneering functionality that's still up to date many years later; quality in the design, materials and surfaces which is created to match user patterns and to be impressive for a long period of time; and a design language that is over and above short-lived fads and doesn't just appeal to people's minds but to their hearts as well and turns our products into good friends.

#### **Pioneering innovation**

The key question we ask ourselves is: how furniture can improve the well-being, health, creativity and productivity of office workers? Therefore, when developing a new product it's not about a new chair per se, but about better sitting, not about a new table, but about nurturing communication, not about a new sofa, but about relaxation. Or thinking about people's needs. Or informal communication.

Therefore, innovations at Wilkhahn are the result of a prudent and sometimes lengthy development process which starts by thinking outside the box and truly making things better.

#### **Durable quality**

The almost proverbial Wilkhahn quality has made the brand successful internationally and a prime example of design made in Germany. Precise dimensions, form-fit parts and surface quality convey perfection and the high-quality nature of the product. What's the point of being able to recycle virtually all the product if it's less attractive, heavier and works less well as a result? Therefore, a careful balance is struck between availability, performance, costs and demands, such as those made by material recycling. In addition to the standard of materials, particular attention is paid to smart design principles that include the ability to repair and upgrade the products.

#### Timeless, attractive design

And what does the design have to look like to make sure it endures? Wilkhahn's design language typically gets to the heart of the matter, conveys the product's natural aspects and its ease of use. The way functions are integrated lends products a transparent, attractive and consistent look. Their distinctive appeal means they harmonise with all sorts of backdrops without dominating them. In other words: Wilkhahn design endures because it never gets boring or stops working properly or looks unattractive.

Wilkhahn had already introduced an all-embracing ecologically responsible design concept back in 1991. Today, the design management and product development departments follow the criteria for the Federal Ecodesign Award, which was initiated by the Federal Environment Agency and the International Design Centre Berlin with the Eco Institute in Freiburg.



## Product responsibility.

Our antidote to the throw-away society is to provide products where form, function and materials have a purpose and are long lasting. Our product-responsibility concept therefore follows well-defined guiding principles:

#### 1. Avoid waste - "the longer and better"

is the remit to our product development team. We achieve this thanks to:

We achieve this thanks to:

- useful innovations that make life easier and more pleasant in the long term;
- first-class materials, surfaces and technical solutions that guarantee quality even after many years;
- distinctive, timeless and appealing designs with the potential to become classics.

#### 2. Reduce - "less is more"

is more than just a design principle to us, it means:

- we reduce the materials used to make handling easier and to protect resources;
- we use energy in manufacturing efficiently, for example by drawing on a combined heat and power plant and heat recovery in manufacturing;
- we reduce emissions, by utilising solar power, climateneutral energy sources (cutting (CO<sub>2</sub>) and varnishing techniques that are low in solvents.

#### 3. Recover- "Reuse + Recycle"

In this case, the goal is to continue to use the whole product or parts of it and recycle it at the end:

- Because the products are modular, expendable parts can be exchanged and features added or retrofitted (e.g. armrest types, covers, cushions, surfaces).
- Connecting points in the product can be dismantled for easy repair.
- Where possible, we use pure materials that are marked as such, making them ideal for recycling.

#### 4. Fairness - responsibility all along the line

At Wilkhahn, environmental and social responsibility are inseparable. Health and safety, training, active participation by and fair pay for employees have been integral parts of our corporate culture for decades. As a result, we actively encourage our suppliers and customers worldwide to improve working conditions. Wilkhahn joined Global Compact and was the first furniture manufacturer to sign an international framework agreement on global recognition and fostering of employee interests.



## Product innovations, sustainability included.

#### The product is the proof of the message

Each and every Wilkhahn product is a prime example of the combination of innovation, quality and design. It stands for an integrated approach to design so that products last and last, which is the key to sustainability when all's said and done.

Milestones, such as the still very contemporary FS-Line and Modus office chair classics, stand out for their excellent dynamic comfort, first-class design and sustainability: cushioning, covers and expendable technical parts are inexpensive to replace so that chairs can be updated even after long periods of heavy use. Many customers all over the world take the opportunity to carry on using their chairs for a virtually unlimited period of time.

The ON office chair with its patented 3D synchronous adjustment technology called Trimension® has become an awardwinning benchmark for healthy and excellently designed three-dimensional dynamic seating. Alongside the most important design accolades worldwide, it has also received the Federal Ecodesign Award. And its little brother IN with its direct control, high-tech seat and back, as well as its remnant-free 3D form-fit knitted cover on the back, is even more dynamic but has fewer separate components.



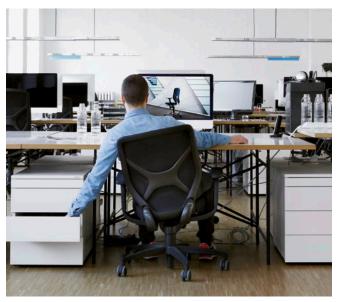
FS-Line, Design Klaus Franck, Werner Sauer, 1980



Modus, design Klaus Franck, Werner Sauer, 1994



ON, design wiege, 2009



IN, design wiege, 2015

The Confair folding table, for conference shapes that encourage interaction and participation, consists of one-type, recyclable materials and repair-friendly connecting parts: it allows better use of space, cuts the time and costs spent on facility management and saves on resources, emissions and maintenance costs. This eco-friendly approach goes above and beyond what can be achieved through the ecological concept behind a product. Another example is the Aline multipurpose chair that combines a minimalist approach to the materials used to make it with maximum transparency, a compact size when stored away and ease of use.

With 72 basic designs, Occo is almost like a kit for all types of meetings. It combines comfort and variety with a sense of identity that easily allows subsequent modifications and conveys the fascination with natural materials with optional solid wood frames and panels. The studies on PrintStool One evaluate how the latest 3D printing technologies can produce a new aesthetic with a minimum use of materials and no waste, how local production can lead to savings on logistics and how a biological plastic like lignin is chosen as a source material that doesn't compete with food production.



Confair flip-top table, design Andreas Störiko, 1994



Aline multipurpose range, design Andreas Störiko, 2004



Occo, design jehs+laub, 2016



PrintStool One stool



## International product and material standards

Wilkhahn office furniture is a true quality product. Wilkhahn pays attention to detail and applies first-class materials and top craftsmanship to make its products. Upholstery fabrics, leather, composite wood, plastics and metals are some of the materials Wilkhahn uses. They are primarily made by specialised suppliers according to specified technical and aesthetic standards. Rules of thumb are as follows:

- Wilkhahn's textiles and leather are low on emissions and help to ensure the quality of the air in buildings and work-spaces is good.
- Wilkhahn uses natural and especially ecological materials, such as wool fleece, cork and coconut fibres wherever possible.
- Wilkhahn foam contains no halogenated flame retardants so that it can be recycled at a later date.
- Wilkhahn prefers highly inflammable upholstery materials to meet stringent fire-prevention rules in public buildings. Extremely flame-retardant upholstery materials can also be used if customers require.
- The table and chair frames' powder-coated metal surfaces are available in several standard colours and contain no solvents or heavy metals. Customised colours are also possible on request.
- Chrome-plated metal surfaces have no harmful chrome compounds (in line with EN 71-3).

- The materials used in Wilkhahn office furniture are made in a fair and ecologically friendly manner. Regular integrated audits in the Wilkhahn supply chain ensure this is the case.
- Due to high-quality materials and production, where harmful substances are kept to a minimum, Wilkhahn office furniture is the right choice when demands concerning healthy interiors are high. This is verified by regular emissions tests compliant with Greenguard<sup>™</sup>.
- Wilkhahn office furniture fulfils the relevant international standards regarding durability, safety and ergonomics in workspaces and is often awarded the GS label.

Wilkhahn places huge emphasis on consistently high quality and therefore checks incoming goods according to specific criteria. Especially trained staff inspect the materials directly before processing. They also check production results before the items are forwarded to the following department and shipped to the customer.



#### Low emission leather

The leathers chosen by Wilkhahn are first class, robust and have pleasant haptics. Above all, due to suitable tanning agents and dyes, they don't have a strong smell and are non-toxic. When creating the Wilkhahn collection, in addition to the aesthetic appeal, special emphasis was placed on including no harmful substances.

Wilkhahn uses European cowhide which is primarily manufactured in Germany and Austria. The tanneries only use tanning agents and additives that comply with European laws on the environment and chemicals. Wilkhahn performs regular on-site audits to ensure that the stringent European health and safety and environmental standards are complied with during leather production.

Wilkhahn leather is currently available in two leather categories and in various colours. The two types of leather available are German-produced premium leathers and have been awarded the Blue Angel label. They contain no harmful substances, are low on emissions and in terms of water consumption and waste-water criteria are particularly eco-friendly.



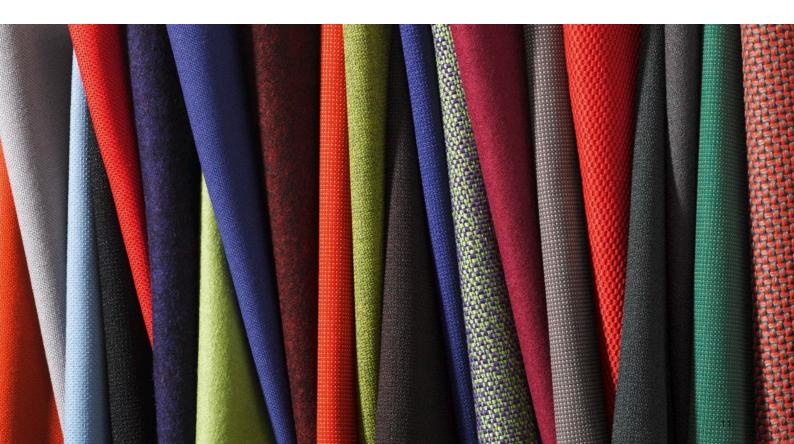
#### Plastics

Modern product design cannot do without plastics. Wilkhahn uses robust polyamide, polypropylene and polyurethane plastics that are as pure as possible. If required, fibre-glass-reinforced plastics are also used. Wilkhahn labels all plastic components with clear details about the materials so that they can be recycled later.

#### **Upholstery materials**

Wilkhahn offers upholstery materials that fulfil superior demands on design and are ideal for professional use. Depending on the fabric group, the materials are made of high-quality wool, long-lasting synthetics or a blend of natural and synthetic fibres.

All upholstery materials at Wilkhahn are always made without azo dyes or other chemicals banned in the EU. Some upholstery materials also have well-known quality labels, such as the OEKO-TEX 100 or the Blue Angel. If required, samples and data sheets can give detailed information on all Wilkhahn fabric groups.





#### Composite wood and solid wood

Wilkhahn uses industrial composite wood for its high-quality table ranges to allow a consistent standard of craftsmanship and support the manufacture of table tops that are low on emissions.

The multiplex, laminboard or wood fibreboard (MDF and HDF) applied come from European wood such as spruce, pine or beech. For the first-class Wilkhahn finishes and wide range of edge profiles in our table ranges, we also choose types of solid wood that tick all the boxes in terms of design, technology and environmental impact.

Wilkhahn's composite wood materials and solid wood are produced regionally and exclusively from wood sourced from responsibly managed forests. This is guaranteed by European regulations on forest management and traceability of the origin of the wood.

Wilkhahn also gives preference to partners who have been certified according to international standards on sustainable forestry management. For example the guidelines set by the Forest Stewardship Council® (FSC) place high socio-ecological demands on the production and trade of wood.



Since 2013 the Wilkhahn headquarters in Bad Münder have been FSC®-certified (licence code C118389, certificate number TUEV-COC-000462). Since then Wilkhahn has also, at the special request of an increasingly international clientele, been using composite wood materials that have been award the FSC label.

#### **Genuine-wood veneers**

Wilkhahn veneers are sophisticated natural products. Only the best-quality tree trunks are turned into fine veneer leaves and in turn experienced Wilkhahn staff only select the best qualities of these. Depending on the type of wood, the thickness of the veneer is between 0.6 and 1.2 mm. This is a pledge of high quality and kind to nature at the same time.

Wilkhahn's range of veneers includes flowery and stripy veneers made of oak, maple, walnut, elm, ash and beech and many other European types of wood. Wilkhahn regularly procures and processes special veneers for exclusive requirements by customers.



Wilkhahn has also been using synthetically made genuine wood veneers as responsible alternatives to tropical types of wood for years. These imitate the look of wood such as Makassar or zebrano, protect the rain forests and also have very good technical qualities.

#### Metals and decorative metal finishes

Components made of metal are used in all Wilkhahn office furniture. Tubular steel, spring steel, sheets and screws with different alloys, but also tubes and parts made of die-cast aluminium and zinc alloys are used. Wilkhahn's product development department specifies the materials, which are chosen to fit the purpose and the components required



technical characteristics. The components are labelled clearly so that they can be recycled at a later date.

Wilkhahn offers chrome-plated, anodised, powder-coated and polished metal finishes. None of Wilkhahn's finishes harms human beings and the environment.

When powder coating, the metal components are covered with a robust varnish. Wilkhahn uses especially energy-efficient epoxy resin varnishing systems. At the Wilkhahn headquarters, the powder-coating process is especially ecofriendly because surplus powder is recovered and energy consumption is cut due to short heating phases. The powder varnishes also contain no organic solvents or heavy metals.

Chrome-plated components are timelessly elegant and particular resistant to scratches and corrosion. During the chrome-plating process the surfaces are refined by electroplating them. Wilkhahn uses carefully selected partners to carry out the chrome-plating process. Regular inspections of the galvanising processes also ensure that strict environmental-protection and health-and-safety regulations are also kept to during chrome plating.

#### **Ecological environmental product information**

Our goal is to be transparent and open with our customers, so we publish eco-relevant information on the most important Wilkhahn ranges in clearly presented data sheets. These are compliant with ISO 14020 and (in addition to details on material composition and recycling proportions) also include information on the product's life cycle. They are also available from the media centre on the Wilkhahn website:





During the anodising process, some of the aluminium is turned into aluminium oxide with the aid of an electric current. Oxidation renders the surface more scratchproof and gives it an even matt shine. As no additional coatings or heavy metals are applied, anodisation is considered an ecofriendly type of surface treatment.

Wilkhahn also offers polished surfaces that are achieved by repeatedly polishing and cleaning the aluminium components. As this process requires less energy and no chemicals, polished surfaces are particularly eco-friendly.

#### **Recycling capability and recycled parts**

Thanks to their clever structure, Wilkhahn office furniture is easy to take apart. By consistently labelling the materials to international standards, the company can ensure that recycling according to type or proper disposal is possible at the end of the product lifecycle. At least 90 percent of the material contained in Wilkhahn office furniture can usually be recycled and used again at the end of the product life. Today, Wilkhahn's office furniture does already have a certain amount of recycled material. But only if it doesn't impair the functionality, durability and aesthetic of the furniture.

#### **Customer service**

Wilkhahn's customer service team consists of well-trained personnel who often have longstanding experience in providing support on Wilkhahn ranges and replacing spare parts. Even after many years, spare parts are also available for many of Wilkhahn's table and task chair ranges. By merely exchanging expendable parts, such plastic rollers or covers, the useful life of a Wilkhahn product can often be extended at a fair cost for many years. This refurbishing has a positive impact on the environment, as especially energyintensive components such as the star bases or metal frames are virtually free of wear and tear.

#### Internal checks, component and product audits

Wilkhahn developed a system of regular internal controls and inspections in order to develop innovative and durable products for discerning demands and make them in consistent quality. Tests on dimensions and mechanical loads are carried out in our own lab in accordance with the relevant international standards. Each product is checked at the product-development phase to ensure compliance with previously established criteria. This also includes checking for ecological beneficial materials. In order to make no compromises on usage quality and product safety, the same testing specifications apply to all materials. So product components made of materials based on a high percentage of recycled materials have to pass the same endurance tests.

Checks on incoming goods in compliance with the AQL standard (Acceptable Quality Level) and checks during manufacturing in accordance with documented assembly and checking instructions ensure production quality remains constant. Products have to pass one final control stage before they are shipped to the customer. In the case of conference table systems, this includes checking positioning plans and detailed drawings, as well as the surfaces and the general quality of the production. Any relevant multi-media fittings are also checked as required. Checking the look and functionality of Wilkhahn's task chairs after production is an integral part of the quality programme.

#### **External audits**

Wilkhahn regularly adds external testing procedures by renowned testing institutes to its own internal system. This includes product audits on a case-by-case basis on whole tables and chairs, as well as chemical and physical inspections of materials. The level of shine on Wilkhahn varnishes or the bonding force of the adhesives are checked. Over the past few years, periodical checks on harmful substances were also added to the checks which are carried out by external testing labs.



#### Greenguard™

Wilkhahn places emphasis on good indoor air quality. We verify that our products fulfil top demands by carrying out regular Greenguard®™ compliant product testing. The test results are published in a data base in the public domain: www.greenguard.org



Back in 1996, the German Environmental Foundation presented Wilkhahn with an award for its impressive concept. The ecological and socially responsible management style is reflected in the architecture of the plant.

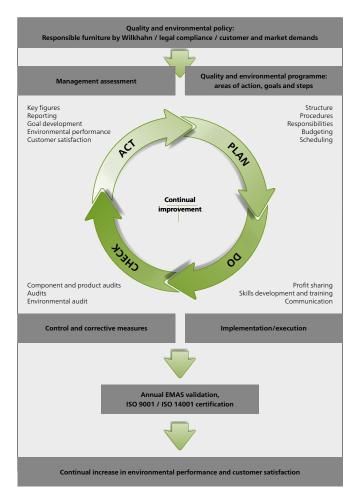
## Integrated quality and sustainability management.

Wilkhahn maintains an integrated management system at its Bad Münder headquarters in order to implement appropriately the principles, specified in corporate policy, of quality, sustainability and fairness when developing new office furniture and in the company's processes.

Wilkhahn applies international standards with good track records to do so. Wilkhahn's ISO 9001 quality management system places customer satisfaction at centre stage. Since 2001 Wilkhahn has also been systematically and consistently improving its environmental performance via an ISO 14001 and EMAS environmental management system. Wilkhahn's headquarters in Bad Münder, Germany, are listed in the European Union's EMAS register under DE-133-00055.

Over the past few years, the integrated management system has been expanded to include a health-and-safety management system and certification based on Forest Stewardship Council (FSC®) standards (TUEV-COC-000462, FSC® license code C118389).

As a result, the integrated management system offers a comprehensive organisational framework with which the social and ecological aspects of running a business can be reconciled with Wilkhahn's financial goals. The integrated management system allows Wilkhahn to ensure that in addition to efficiency, increasing customer satisfaction, improving environmental performance and social responsibility (CSR) remain the guiding principles of day-to-day business decisions.



#### Wilkhahn headquarters in Bad Münder

Wilkhahn's headquarters are located in Bad Münder, about 50 km south west of Lower Saxony's capital Hanover. The headquarters have been extended and developed several times since the company was founded in 1907. Today the site covers some 10 hectares in an industrial park outside the village of Eimbeckhausen, a district of Bad Münder.

Thanks to their proximity to the A2 motorway and 442 Aroad, Wilkhahn's headquarters have excellent traffic links to ship Wilkhahn office furniture worldwide quickly. Wilkhahn's headquarters are connected to the urban railway system for the Greater Hanover area via the station in Bad Münder.

The vast Wilkhahn site has a natural appeal. In terms of its design and ecological value, the architecture is impressive and reflects the history of the company. Well-known modernist designers left their mark on the premises and include Herbert Hirche, a student of Mies van de Rohe, (Wilkhahn office building 1959). Other examples are architect and Pritzker prize winner Frei Otto (Wilkhahn production pavilions 1988) and architect Thomas Herzog who is considered a pioneer of ecologically responsible construction. The product facilities he designed (1992) reflect the socio-ecological change at Wilkhahn.

In 2017 Wilkhahn employs 350 people in Bad Münder. In addition to the production buildings, the management building with various other central services is based here, including product development, material management, international communications, marketing, IT systems, controlling and accounts, HR and co-ordination of world-wide sales are all based at the Wilkhahn headquarters.

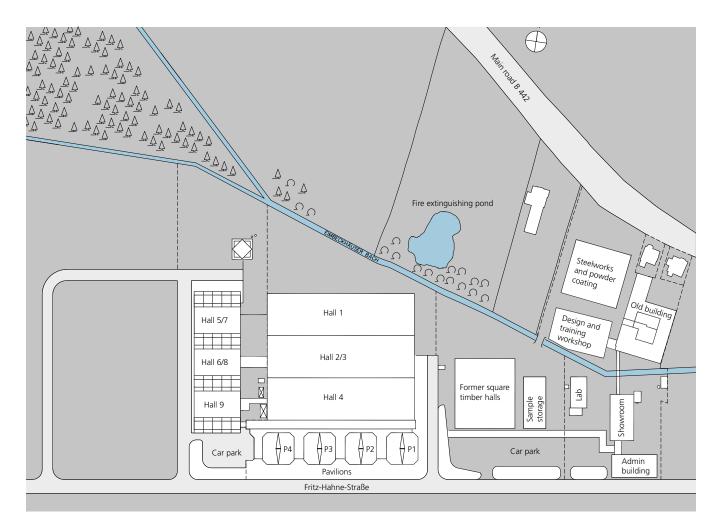
#### **Management control**

Sustainable improvements are achievable at Wilkhahn due to the introduction of management cycles: appropriate goals and measures are established once the key sustainability issues have been identified. Wilkhahn regularly checks that measures are put into practice as planned and gauges the extent to which these have helped achieve the corporate objectives set. The success achieved and any other potential are assessed on the basis of objective performance indicators and transparent quality criteria. The Wilkhahn management team frequently analyses the status the agreed interim objectives have reached and specifies ambitious new sustainability goals.

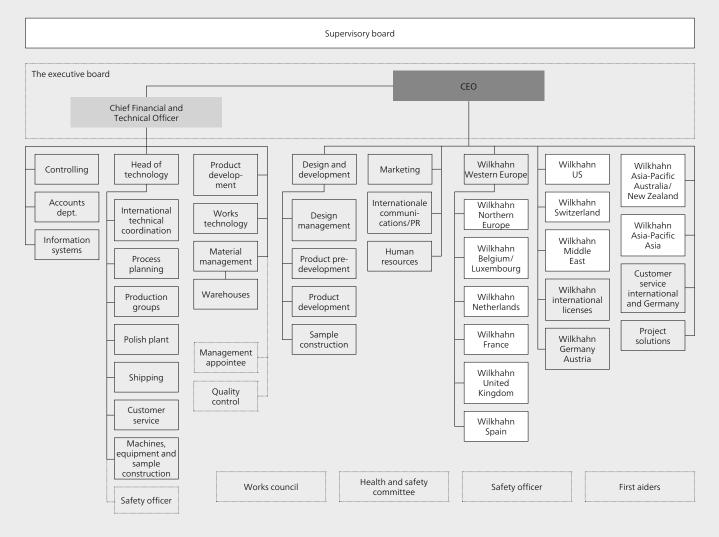
#### Sustainable organisation

Wilkhahn's management team has established responsibilities and authorities in order to achieve corporate objectives and the sustainability goals. The organisation is audited often. The organisational chart on the next page outlines the current structure of the company.

Wilkhahn management assumes overall responsibility for complying with legal requirements in Bad Münder. This responsibility was transferred for key areas of environmental protection, work and safety and monitoring legal requirements to the technical management team.



Wilkhahn headquarters at Bad Münder have been consistently developed since the company's foundation in 1907. Today, on an area of 100,000 square metres, the headquarters produces premium furniture in ideal production conditions and offer superb architecture and natural outdoor areas.



Parts of the company that have been regularly audited to ISO 9001 and ISO 14001 and EMAS, are shown in grey.

In this role it is supported by the chief operations officer, the head of production, the quality and environmental officer and the health and environmental management officer, as well as further officers who are responsible for health and safety, fire prevention and environmental protection.

#### Environmental law and environmental audit

Wilkhahn does of course comply with statutory requirements. Wilkhahn carries out annual environmental audits because the legal specifications regarding the protection of water, the air, the soil and nature change over time. Consequently, it can ensure that all areas of the company comply with environmental law and are aware of and implement amendments to laws. Important specifications that could affect development or manufacturing are anchored in Wilkhahn's process standards and the workforce is notified about these during frequent training courses and briefings.

During the annual validation of the EMAS management system, an independent environmental expert checks whether all environmental specifications relevant to Wilkhahn are covered and complied with. EMAS validation and the entry into the EMAS register confirm that Wilkhahn fully abides by current environmental law.

#### **Communicating sustainability**

At Wilkhahn sustainability information is frequently given in the company itself and to partners, customers and other interested parties. Wilkhahn believes that transparent communication is imperative for fairness and pivotal to fostering continual improvement. Socio-ecological responsibility is put across and discussed during regular works meetings, management workshops, training courses for employee and external partners and in presentations.

Wilkhahn shares environmental information on its office furniture and sustainability management's milestones and stumbling blocks with a broad section of the public. The consolidated Environmental Statement with Sustainability Report is an important component alongside the Wilkhahn website, catalogues, product data sheets, special environmental product information, the blog and the "Der Wilkhahn" customer magazine. They all provide details on the benefits of Wilkhahn office furniture and special sustainability issues at Wilkhahn.

# CERTIFICATE



VERIFIED ENVIRONMENTAL MANAGEMENT Wilkhahn Wilkening + Hahne GmbH + Co. KG

Site Fritz-Hahne-Straße 8 31848 Bad Münder

Registration-No.: DE-133-00055

Date of first registration 13<sup>th</sup> July 2001

This certificate is valid until 31<sup>st</sup> March 2020

This organisation has established an environmental management system according to EU-Regulation Nr. 1221/2009 and EN ISO 14001:2004 Section 4 to promote the continual improvement of environmental performance, publishes an environmental statement, has the environmental management system verified and the environmental statement validated by a verifier, is registered under EMAS and therefore is entitled to use the EMAS-Logo.



09th May 2017

Industrie- und Handelskammer Hannover Chamber of Industry and Commerce

i. V. Christian Bebek (Deputy Chief Executive)



EMAS audits are voluntary, but Wilkhahn has of course taken part in them for many years. EMAS validation confirms that Wilkhahn abides by current environmental law to the full.

## Management responsibility and employee participation.

Wilkhahn has a longstanding tradition of adopting an employee-driven approach and actively involving employees. A collaborative style of management and group-driven methods of working, which allow a high level of self-control and initiative, are typical of and a longstanding tradition at Wilkhahn.

Since 2000, a potential-driven approach has applied in the organisation: "The company is organised to exploit potential. The purpose is to harness synergy, pool skills and give individuals greater freedom to act".

As part of the long-term corporate strategy, the roles and responsibilities of managers and their employees have been precisely defined as regards implementing the strategy.

#### Management and development

Key management tools to achieve corporate goals are as follows:

## • Objectives agreements – setting, measuring and assessing goals, as well as learning:

The principle of objectives-based management is transferred to employee level too. Criteria are participation-driven agreement on interim goals, objective assessment, transparency across departments and commitment.

#### • Skills model

In order to improve management at Wilkhahn, a new skills model was launched in 2012 that embraces entrepreneurial, management, social and personal skills. Tools are for example feedback from each employee that is given at least once a year.

#### • Development of the next generation

One of the tasks of long-term business planning is looking out for likely successors in the medium term. Considering demographic change and the lack of skilled professionals, the next generation of managers are identified at an early stage and fostered via personal development plans and training, such as project-manager courses.

#### • On-going training

The recurrent planning and budgeting process required to develop the company includes company-wide identification of requirements, planning and implementation of training measures. Participation in these types of measures can also be an integral part of objectives agreements in order to foster change processes.

#### • Bonus scheme

For blue-collar workers a new bonus scheme was developed at the suggestion of and in partnership with the works council. In addition to incentives to consistently improve productivity, it also includes a quality bonus in order to encourage people's sense of responsibility and motivation to carry out quality control.



In conjunction with the German trades unions IG Metall and BHI (Building and Woodworkers International) Wilkhahn helps to ensure that fair working conditions are maintained and workers' rights are respected. Wilkhahn has undertaken to pursue this aim with a voluntary framework agreement since 2009. From left to right: the former IGM chairman Berthold Huber, Wilkhahn president Dr Jochen Hahne, BHI general secretary Anita Normark and Wilkhahn works council chairman Ralf Olaf Stender.

#### Active participation as the key to continual improvement

Wilkhahn actively involves its staff in the way the company is shaped. The management officer on the works council and the health and safety officer provide major stimuli to help improve social sustainability and responsibility for the environment. They often get the workforce involved through works meetings and the quarterly health and safety and environmental committee.

Wilkhahn's ideas management scheme allows every employee to suggest ideas to make the company even better. Whether it's a question of avoiding risks in the workplace, saving material or energy. An important incentive is that any good idea is also rewarded financially according to a transparent method.



In-house communications create a team spirit and transparency in the international Wilkhahn world: the "Wilkhahn aktuell" employee magazine is published regularly in German and English.

#### Corporate values, actively practised

The overarching maxim is fairness and aspects like trust and reliability, listening to customers' needs, commitment, simplicity, sustainability and the desire for innovation that shape Wilkhahn's corporate culture. Wilkhahn views these corporate values as joint fundamental convictions that are shared, practised and developed by all the workforce worldwide. They underpin the way we act, particularly our culture of management and employee participation.

#### Vocational and skills training

Well-trained employees are pivotal to a company developing successfully. Wilkhahn offers meticulous and thorough vocational training to young people in the blue-collar or white-collar sector, or as part of a course at university with a strong leaning towards periods of practical experience. But we also think personal development is responsible for longstanding employees who are also offered training to help them cope with the changing demands of their jobs. As an SME, lifelong learning is particularly relevant in order to attract and retain staff. Wilkhahn's requirements as regards training in ongoing skills are provided via regular feedback from each employee and analysed, assessed and included in training planning.

#### Equal opportunities, anti-discrimination, fair pay

All apprenticeships, jobs and management positions are advertised and awarded without any discrimination towards a particular sex. The principle of equal pay for the same job has applied regardless of sex and ethnic group for many decades.

The abilities of people with special needs are respected at Wilkhahn. And these people are integrated into standard day-to-day operations.

The regulations on pay, vocational training and equality are also set out in company agreements. Wilkhahn has appointed an anti-discrimination and equal opportunities officer who acts as a point of contact and mediator alongside the works council.

#### Social responsibility

Wilkhahn is a member of several clubs, associations and networks dealing with sustainability that the management team and the rest of the workforce are actively involved with.

Some of these include:

- The German Sustainable Building Council e.V. (DGNB)
- The German Association of Environmental Management e. V. (B.A.U.M.)
- The Institut für Markt-Umwelt-Gesellschaft (imug e. V.)
- Vereinigung future e.V. verantwortung unternehmen
- Niedersachsen Allianz für Nachhaltigkeit

The company has also been actively involved in the following bodies:

- In the Federal Ministry for Labour and Social Affairs' CSR forum that advises the German government on sustainability strategy issues
- On the board for sustainability communications at B.A.U.M. e. V.
- On the environmental board at Industrieverband Büro und Arbeitswelt e. V. (IBA)
- In the Hanover Region's industry strategy group for the achievement of climate-protection targets

We also hold various presentations at universities, associations and institutes and write articles on design and sustainability.



## Promotion of health and safety.

#### Health programme

"Health is one of the most valuable assets, both for individuals and for companies. Therefore, protecting and actively encouraging the health of our employees plays a pivotal role in the company".

In terms of protecting health and company health management, Wilkhahn wears two hats:

- as a company that has to engage with the links between motivation, maintenance of performance, demographic change and extended working lives in order to ensure it can survive in future,
- as a developer, manufacturer and marketer in furnishing modern working environments that boost the feeling of well-being, health and success of the people using them.

#### Company health-management system

The company health-management team consists of the chairman of the works council, the head of human resources and employees from the same department, as well as the health-and-safety expert.

They come up with ways of boosting health, which complement the risk-avoidance approach adopted by the health and safety management team.

## • Reflecting demographic change and an ageing workforce

The average age in the company is on the increase and therefore so is the average age of the Wilkhahn workforce. At the same time, the pension age has been increased and the length of a working life is rising. The company's healthmanagement system deals with the resulting challenges. The goal is to foster productivity and a good working environment with the cooperation of both younger and older employees.

#### • Raising awareness in managers

Health means so much more than the absence of any illness, a holistic approach is required. Good working conditions have a lot to do with good management. The company health-management system encourages managers to take their responsibility for health in the company seriously.

#### • Encouraging personal responsibility for health

Nobody can take responsibility for the health of other people: for their diets, the way they spend their leisure time, for consumption of stimulants and their private affairs. The company health-management system gives tips and advice on how to take on more personal responsibility.

#### • Taking preventative action

It costs relatively little to maintain your state of health, but recovering it is expensive, both for the individual and the company. Once complaints occur it's often almost too late. Which is why the company health-management system's principle is that prevention is better than cure.

At Wilkhahn, company health-management tools have been developed over the years, often with external partners. This process is an ongoing one.

#### • Phased integration after sick leave

Phased integration after sick leave has been popular and has a good track record. When people have been off sick for a long time, it helps them find their way back into their jobs.

#### • Monthly allowance for fitness programmes

Anyone wishing to improve their own health, will receive an allowance from Wilkhahn for a gym and wellness park nearby.

#### • Activity days

The health activity days have become part and parcel of the company's health-management system. Since 2013, certain topics and aspects related to health and safety have been presented to the company's workforce. Wilkhahn allows employees to take part during paid working hours.

#### • Physiotherapy and sport progammes

We've been working together with physiotherapists since 2013 who visit employees at the workplace in order to do specific exercises to alleviate complaints and prevent muscle and skeletal illnesses. Other programmes include company sports, Pilates and back exercises.

#### Systematic health and safety at Wilkhahn

Wilkhahn applies a wide range of measures to ensure that workspaces in the Wilkhahn production department are as safe as possible. These include:

- planning safe procedures and workspaces;
- organising and defining responsibilities;
- defining and implementing health and safety and fire prevention measures;
- providing information and courses on workspace risks and the right way to respond;
- regular safety tours of the areas worked in;
- quarterly consultations given in the health and safety committee, where the health and safety interests of all Wilkhahn staff at headquarters are represented;
- regular updates of the workspace risk assessments;
- regular training courses by the health and safety officer and first aiders

Health and safety management at Wilkhahn starts when new workspaces are planned. The health and safety officer is included early on during the planning phase and ensures that physical and psychological stress is minimised. Wilkhahn provides technical equipment for physically demanding activities such as lifting table tops, or turning task chairs during assembly: lifting aids and electrical lifting gear and lathes, as well as protective devices on the machines and heightadjustable tables, have been used at the Bad Münder headquarters for several years.

If possible, the usage of hazardous materials at Wilkhahn is avoided. Where unavoidable, for example when varnishing wood, the quantities used are optimised and protective measures taken so that safe handling of the hazardous substances is guaranteed. In the varnishing department, overspray is efficiently suctioned off and filtered through the floor so that anyone working there isn't exposed to harmful vapours.



In the health team, the works council, human resources employees and the health and safety officer decide on health-boosting programmes at Wilkhahn.



Wilkhahn gives its staff practical and in-depth information on current health and safety issues during regular activity days.

Wilkhahn employees are only permitted to carry out risky jobs if they've been informed about the mandatory rules governing safety and conduct beforehand. Wilkhahn also provides free personal protective equipment to staff such as safety shoes or ear protectors. A company doctor also provides advice during regular surgeries and offers check-ups.

The psychological stress that both staff in the production departments and offices can be subjected to is a relatively new area of health and safety. As part of a pilot project with professional associations, Wilkhahn was one of the first companies in Lower Saxony to include psychological stress when assessing the risk in all workspaces. Special acoustics components were purchased to cut down on noise-related stress in offices and managers were made aware of various types of psychological stress.

Wilkhahn invests regularly in health and safety maintenance. Back in 2000 Wilkhahn was presented the European Good Practice Award in Safety and Health at Work by the European Agency for Safety and Health at Work. The low number of accidents incurred by our employees proves that professional health-and-safety management is worthwhile.

## Environmental aspects.

As part of its sustainability management system, Wilkhahn frequently checks that the negative impact on the environment and society is minimised and any positive effects are maximised if possible.

To do so Wilkhahn first had to specify the way in which development, manufacturing and sales of office furniture plus the buildings and machinery have an impact on the environment and society. The results of the annual environmental audit and material, energy and other data were analysed and key environmental aspects identified.

#### **Direct environmental aspects**

Immediate environmental aspects are a direct result of our activities, products and services and the operation of technical machinery. They can usually be influenced by strategic decisions on the part of Wilkhahn's management, for example by investments made in energy-saving technology. Direct environmental aspects can also be influenced by checking and optimising operational procedures. If maintenance is carried out frequently on machines, leaks can be avoided that could soil the floor. The following environmental aspects are very important to Wilkhahn:

- Pollutants emitted from the air into the atmosphere (carbon dioxide in particular) that occur when heat and electricity are generated and during transport
- Waste that occurs due to material consumption in the manufacturing department and in offices

Other direct environmental aspects which only have a low impact on the environment are:

- Noise emissions due to the operation of the machinery
- Protection of nature and biodiversity due to the space required and use of natural materials
- Water consumption and the maintenance of the water quality

Wilkhahn collates data and breaks it down into key indicators regarding the main direct impact on the environment. Examples are the annual quantity of material used, monthly

Specific environmental aspect	Relevance	Environmental impact/reason	Eco-relevant activities and machinery and equipment
CO <sub>2</sub> emissions (except for electricity)	high	Climate relevance	Heating, vehicle fleet, shipping logistics
Electricity consumption	average	Climate relevance	Lighting, compressed-air generation, suction, IT hardware
Material used	average	Consumption of resources, transport-related emission	Shipping logistics, contract- award decisions, production strategy
Solvents (VOCs)	low	Health	Varnishing, upholstery department
Waste	low	Health, emissions/ water/soil protection	Product development, manufacturing, customer service, offices
Water	low	Water/energy consumption, water- pollution control	Powder coating, sanitation areas, oil and hazardous goods warehouse

The overview reflects the environmental aspects relevant to Wilkhahn and lists the activities and machinery that have a special impact on the environment.

energy consumption and waste quantities at the Bad Münder headquarters. Wilkhahn also uses common standard factors to calculate emissions and environmental costs. But collating data on all environmental factors isn't possible or practical.

Which is why Wilkhahn complements this quantitative approach by carrying out qualitative assessments. At the same time Wilkhahn assesses the environmental impact that occurs during normal operating conditions in various areas of the company. Possible (environmental) risks that could occur due to emergencies, such as fires or floods, are assessed separately.

The traffic-light system below shows the areas of the company in which an environmental impact occurs to a relevant extent and where further improvements are possible by taking specific measures.

Green areas indicate low relevance, yellow and red ones imply further improvement potential and actual requirements to take action.

#### Indirect environmental aspects

Wilkhahn assesses effects on the environment that are associated with its activities but which it can only influence to a certain extent. Examples include material and energy consumption for exploiting and transporting feedstock, or adhering to environmental legislation within the Wilkhahn supply chain.

When new products are developed, Wilkhahn selects materials that are as suitable and eco-friendly as possible, therefore actively reducing indirect impact on the environment due to the materials consumed. Wilkhahn suppliers are also obliged to comply with the environmental and social standards.

#### Social sustainability aspects

In addition to the environmental aspects, Wilkhahn also looks at and optimises any that could have a social impact on employees and society. Examples include health and safety, health-boosting programmes and adherence to social legislation.

		Å	Areas	of th	e con	npan	у				Ma	anufa	actur	ing d	epart	tmen	ts		В		ngs / i equip			1
low relevance, little improvement potential average relevance, average improvement potential high relevance, high improvement potential	Design, development, product development,	Sales, marketing	Customer service	Material management (supply chain)	Office jobs, admin	Vehicle fleet	Manufacturing areas (overall)	Buildings, plant grounds, other machinery, plant equipment	Critting and serving dept		Upholstery dept.	Table-top manufacture, varnishing dept.	Table assembly	Steelworking, powder coating	Chair assemble	Warehousing, internal logistics	Training workshop, equipment, sample construction	Packaging, dispatch	Suctioning	Compressed air	Heating installations	Hazardous goods storage	Lighting technology	Buildings, company premises, other equipment
Energy										Î														
Emissions	Γ																							
Waste																								
Materials used																								
Water																								
Customer and market, quality																								
Legal issues																								
Emergency, risk																								
Biodiversity																								
Social responsibility (CSR), health and safety, health																								

## Activities and machinery relevant to the environment.



#### Sewing and upholstery department

Right up until today, sewing, upholstering and covering seating are manual jobs in chair manufacture. Experience, dedication and precision are required every step of the way to achieve a perfect result. The seat cover with its underlying foam body and the load-bearing seat shell are connected with each other during the upholstery process. When covering task- and visitor-chairs Wilkhahn uses sophisticated made-to-measure covers which, depending on the range and model, have reinforced layers and nonwovens to provide cushioning.

Wilkhahn covers have an exceptional eco-friendly design. In many areas, precise and long-lasting stitching prevents the use of adhesives. Piping and deep top stitching to create contours guarantee the upholstered sections stay comfortable. Should a cover become worn and torn after a long peri-



od of heavy use, the chair's useful life can be extended in a eco-friendly manner by simply replacing the cover.

Wilkhahn uses adhesives that comply with stringent health and safety requirements and are approved based on the European regulations for hazardous substances. Solvents from adhesives are an important aspect of health and safety and are not very relevant to environmental protection due to the low amounts emitted of just approx. 15 kg of solvents per day. Due to smart product design, Wilkhahn only uses very little adhesive. Emission-protection requirements are kept to, despite the rising amount of adhesives used in the upholstery department every year.

Further environmental aspects of upholstering are moderate energy consumption due to ventilation and compressed-airdriven tools.





The steelworking department produces precise and durable frames from tubes and sheets for Wilkhahn tables. Special equipment ensures safety while welding; maintenance and inspection of the machinery protects the environment.

#### Steelwork department

Frame parts are made for standard and customised tables in the Wilkhahn steelwork department. Processing the metals made of steel alloys and aluminium involves cutting, drilling, turning, welding and grinding. Low levels of emissions (welding gases) and noise occur in the process.

Environmental aspects that need to be taken into account here are energy consumption and the safe storage of oils, grease and cooling lubricants.

#### Varnishing machine

Wilkhahn commissioned a new varnishing machine in 2009 that produces first-class results when varnishing the table tops and boosts environmental protection and health and safety at the same time.

Varnishing is done in temperature-controlled and particularly low-dust areas. To ensure employees stay healthy, the varnishing particles in the air are suctioned off through the cabin floor and bound in dry filters so that the environment doesn't suffer unnecessarily.

Wilkhahn creates the superb quality of the varnished surfaces by hand in several phases. Special grinding procedures are carried out in a separate grinding room before each varnishing job. This ensures that layers are even during varnishing and increases the brilliance of the layer of varnish.

During grinding, efficient suctioning ensures excellent results and safe working practices. The waste air, polluted with particles of dust, is cleaned via a dry filter. The coarser pieces of grinding residue are collected in cartridges and disposed of as harmless solid matter.

In 2015 Wilkhahn replaced the last varnishing cabin in the development workshop where wet-filter technology was still being used. By switching to dry filters, water consumption



Clean varnishing to satisfy the most stringent of demands: automatic varnish mixing, underfloor suction and heat recovery allow Wilkhahn to make conference and stand-alone tables at a high level of quality in terms of health and safety and environmental protection.

was cut and no aqueous waste is generated in the varnishing process.

Solvent use has also been optimised over the past few years. During the priming process, Wilkhahn also applies varnishing systems that cure with UV light. These are virtually free of organic solvents (VOCs) and help provide good health and safety and environmental conditions. Since 2009, computer-controlled mixing and cleaning procedures have also significantly cut solvent and hazardous waste produced during varnishing. Wilkhahn has also been using a distillation apparatus since 2015 with which solvents can be directly recycled and used several times over for rinsing cycles.

Two thirds of the heat have been recovered thanks to an additional investment in air suction. The recovered energy corresponds to the heating value of about 20,000 litres of heating oil. As a result, Wilkhahn can prevent the emission of about 60 tonnes of the carbon dioxide per year.

#### **Powder coating**

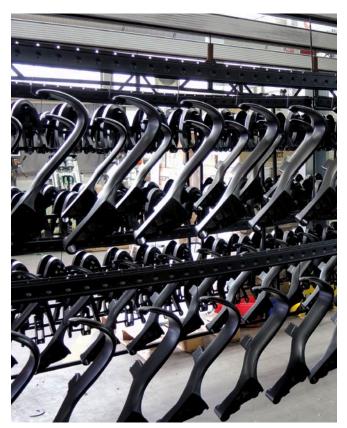
The powder-coating machine at the Wilkhahn headquarters in Bad Münder coats various metal components such as table frames, tubes and star bases with different colours to suit customer preferences and protects them from corrosion at the same time.

Before the varnishing powder is applied, the metal parts are checked to ensure they are in perfect condition first before they are cleaned in the water basin. After degreasing and rinsing in the water basin, industrial drying follows and the powder is then fired at 190°C.

Even if this coating process is relatively energy-efficient, the machine's energy consumption is the key environmental aspect. The process water required and its proper disposal are also key environmental aspects.

Over the last few years, Wilkhahn has invested in enhanced insulation of the halls and optimised heating circuits to cut down on heat loss. Aqueous waste has for years been reduced to the absolute technical minimum by recycling and treating the cleaning water.

The consumption of powder varnish was improved further by a new control system for the machinery and a new suction system in 2013. Virtually all superfluous varnishing powder can be recovered and used again directly. Altering the coating colour is now possible without changing the powder chamber, therefore further slashing consumption. Powder varnishes used at Wilkhahn contain practically no solvents or heavy metals.



Before powder varnishing, each part is checked to ensure the surface is perfect and other quality characteristics have been complied with.

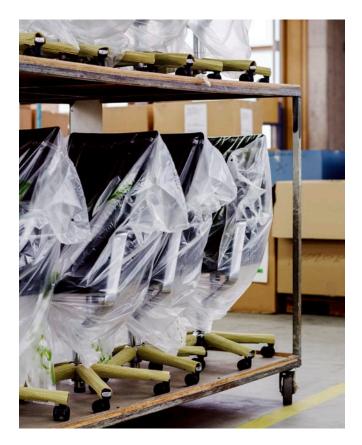
#### **Energy and heating technology**

Wilkhahn operates a photovoltaic plant, two solar-thermal systems and other small combustion systems for liquid and gaseous fuels at the Bad Münder site. Since 2012, a district heating pipe has been supplying the Wilkhahn headquarters in Bad Münder with climate-neutral heat from biogas, which is generated in a neighbouring biogas plant.

By regularly maintaining and inspecting the systems, sulphur dioxide and nitrogen oxide emissions constantly fall below the statutory thresholds (in line with German legislation on emissions). Emissions of SO<sub>2</sub> und NO<sub>x</sub> are comparatively low. Pollutants in the air have been cut drastically since eco-friendly heat from district heating has been used. Which is why the Wilkhahn environmental management system considers it an environmental aspect of secondary importance. Wilkhahn places huge emphasis on permanent limitation of carbon dioxide emissions by maximising the proportion of heat from district heating and employing energy-efficiency measures.

#### Wilkhahn vehicle fleet

The Wilkhahn vehicle fleet consists mainly of sales reps' cars and Wilkhahn's customer service team's vehicles. Special vehicles like fork lift trucks are also part of the mix. All Wilkhahn vehicles comply with the Euro 5 exhaust gas standard and most of them have eco-friendly extras such as automatic start-stop systems or enhanced aerodynamics.



#### Sustainability in the supply chain

Wilkhahn's principle of fairness doesn't just end at its own factory gates, but now continues via exemplary manufacturing conditions in the supply chain. Wilkhahn consequently signed a framework agreement in 2009 with the international unions which primarily fosters good working conditions and employee rights based on the principles of the International Labour Organization (ILO) of the United Nations.

Wilkhahn has developed and nurtured long-standing business relationships with its partners for many years. Clear technical specifications and an open style of communication ensure that product quality and the safety of production processes are always possible when collaborating with selected suppliers. Wilkhahn always expects the same high level of professionalism and quality from its suppliers and ensures that Wilkhahn's principles on protecting the environment and fairness vis à vis employees are adhered to. Wilkhahn performs regular on-site audits to make certain the health and safety and level of environmental protection comply with statutory requirements at the least. The top 20 suppliers are regularly subjected to an integrated supplier assessment. In the process, suppliers stood apart who had a certified environmental or health and safety management system, or who have proved their ability to perform via on-site audits.

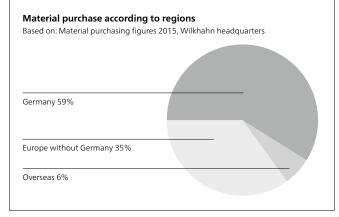
Over the past three years, Wilkhahn has carried out regular audits on suppliers' premises. The upshot was that all top 20 suppliers and all new suppliers complied with the sustainability requirements. The supplier audits will be continued in the Sustainability Programme of Action over the coming three years.

#### **Delivery and shipping logistics**

The regional, domestic and international material movements associated with supplying materials and shipping products consumes energy and cause emission of carbon dioxide, fine dusts and nitrogen oxides. If reconcilable with the requirements of international customers, Wilkhahn uses rail-bound and seaborne transportation which cause fewer greenhouse-gas emissions than planes.

Wilkhahn improves the emissions associated with transport by optimising drivers' routes and increasing the loading capacity per lorry. Wilkhahn collaborates with logistics partners who use energy-efficient vehicles that produce low quantities of harmful substances (the Euro 5 exhaust gas standard at least). For deliveries from key suppliers, Wilkhahn also increasingly encourages returnable packaging to reduce material and energy consumption even further.

When shipping Wilkhahn office furniture to international customers, Wilkhahn only uses as much packaging as required for items to be delivered safely to the customer. In addition to dust-protection sheets made of recyclable polyethylene and cardboard boxes, blankets and wood-based materials are frequently chosen.



At the Bad Münder headquarters, the feedstock required for manufacturing is primarily purchased regionally: way over half the materials come from suppliers in Germany, a further third comes from specialised partners in Europe. Only a small proportion of the feedstock is procured very far away.



Sustainability included: Wilkhahn developed a special attachment at the back to send its **ON**<sup>®</sup> task chair range on its journey throughout the world. The knock-down dispatch method produces a compact size that cuts transport-related emissions.

## Sustainability goals and sustainability performance.

Sustainability has been a core theme in our company and for the development of Wilkhahn office furniture for about three decades. The supervisory board's resolution in 1989 that if in doubt ecology and social responsibility were to be valued more highly than a fast profit is just as relevant today as it was then.

Wilkhahn's overarching goal of sustainability management was and is to make customers all over the world enthusiastic about superbly designed office furniture and useful innovations and services. Preventing or at least minimising any negative impact on the environment is something that Wilkhahn sees as being a matter of course, for example by developing long-lasting products or employing energy-efficient production methods.

Over the decades, ecological and social sustainability has been systematically integrated into Wilkhahn's structure and decisions it took. A key way of guaranteeing continual improvement was and is the ISO 14001 and EMAS environmental management system at the Wilkhahn headquarters in Bad Münder.

Wilkhahn also places huge emphasis on social aspects that go way above and beyond those that can be directly gauged with respect to Wilkhahn's office furniture. Wilkhahn has for many years been systematically taking into account and enhancing health and safety, fostering good health and fairness (also in the supply chain).

For example, over the past three years Wilkhahn has been pursuing various sustainability goals and investing in real im-

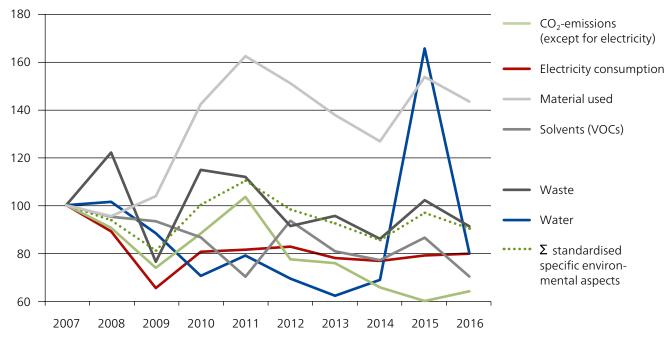


The fire-extinguishing pool created at the Wilkhahn headquarters in Bad Münder provides protection and a habitat for water birds and other wild animals.

provements. The following information and graphics outline the successes scored and obstacles faced.

#### Emissions

In general, Wilkhahn's goal is to avoid harmful emissions as far as possible. At Wilkhahn's Bad Münder headquarters, reducing carbon dioxide emissions has been the biggest success. By switching to renewables, Wilkhahn has man-



**Development of specific environmental aspects at the Wilkhahn headquarters in Bad Münder from 2007 to 2016** Index value (reference year 2007 = 100)

Environmental performance at the Wilkhahn headquarters in Bad Münder has been continually improved over the past 10 years.

aged to cut CO<sub>2</sub> emissions substantially over the past few years: In 2016, 41 percent of the energy required to manufacture furniture came from renewables. Some 57 percent of heating requirements were climate neutral thanks to heat generated from biomass. Renewables accounted for 25% of the electricity generated. The energy consumed in 2016 consisted of biomass, solar-thermal power and photovoltaics and had the energy capacity of about 316,000 litres of heating oil. Therefore, around 1,000 tonnes of carbon dioxide were saved at the Wilkhahn headquarters in Bad Münder in this way.

Over the next few years the heating energy requirements at the Wilkhahn headquarters in Bad Münder will continued to be covered by at least 50 percent renewables. The Wilkhahn vehicle fleet is also to save 20 percent carbon dioxide (compared with the 2013 figure for emissions). Within the supply chain, delivery of parts is to be optimised to avoid  $CO_2$  emissions.

#### **Electricity consumption**

Wilkhahn was able to achieve its goal of cutting relative electricity consumption by at least 5 percent compared with the 2010 reference year. In 2016, absolute electricity consumption was only about 2 percent lower than the figure in

#### Results of the 2014-2014 environmental programme

Wilkhahn implemented the environmental programme's measures shown below as planned. As a result, energy consumption and the use of solvents were reduced again at the Wilkhahn headquarters in Bad Münder.

No.	Goal	Measure	Status	Date	Responsible
1		Use $CO_2$ -neutral district heating generated from biogas and maximise its share in total heating requirements.	Implemented	2016	Head of works technology
2	<b>Climate protection:</b> To increase the proportion of	Support climate-neutral hot-water generation using solar-thermal systems.	Implemented	Ongoing	Head of works technology
3	renewables at the Bad Münder headquarters to 50% by 2016.	To generate electricity from solar power (continued usage of the photovoltaic plant).	Implemented	Ongoing	Head of works technology
4		Reorganise customer service (with a more regional structure) to cut travelling times and reduce $CO_2$ emissions.	Implemented	2014	Head of customer services
5		To replace all spotlights and lighting outside with LED lighting by 12/2015.	Implemented	2015	Head of works technology, company technicians
6	<b>Energy efficiency:</b> To cut relative electricity consumption by 2016 by 10%	Replace cooling devices (snack vending machines) with more energy- efficient devices by 7/2014.	Implemented	2014	Head of canteen
7	(in relation to sales, reference year 2007).	Replace electric water circulation pumps with high-efficiency, energy- saving Stratos pumps.	Implemented	2016	Head of works technology
8		Draw up a concept for recording electricity consumption better (smart metering).	Implemented	2014	Head of works technology
9	Material efficiency:	FS 219/220 task chair range: save at least 20% aluminium by optimising the star base.	Implemented	2014	Product development
10	To continue to optimise the use of materials per product unit.	To launch and implement an incentive system to cut down on remnants and scrap material in the production department.	Implemented	2016	Chief operations officer
11	Low-solvent manufacturing: To keep VOC emissions at the	Carry out trials with low-solvent wood varnishes and assess whether they could be used in production processes.	Implemented	2014	Chief operations officer, varnishing department
12	Bad Münder headquarters at a constantly low level.	Recycling: purchase a distiller to recover solvents (wood varnishes).	Implemented	2015	(surfaces)
13		Sustainable supply chain: make regular checks on the top 20 suppliers re quality, health and safety and environmental protection as well as fair working conditions. Pinpoint the most important suppliers and sustainability issues by 6/2014.	Implemented	Ongoing	Sustainability manager, head of the material management
14	Keep health and safety and environmental protection at a high level at headquarters and internationally.	Carry out annual checks and certify the Wilkhahn headquarters in Bad Münder in line with the specifications of the Forest Stewardship Council <sup>*</sup> (FSC).	Implemented	2016	Sustainability manager
15		Organise activity days on health at the Bad Münder headquarters and maintain and increase health-promotion programmes.	Implemented	2016	Company health management team
16		To reconstruct the varnishing section in the training workshop: Integrate a manual spraying stand with safe and eco-friendly, dry-filter technology.	Implemented	2014	Chief operations officer, training workshops
17		Biodiversity: continue support for the dwarf beech initiative and plant a dwarf beech on the company's premises.	Implemented	2015	Environmental management

2010. However, as Wilkhahn saw a significant rise in sales, relative electricity consumption even dropped by 10 percent This was achieved by energy-efficiency measures such as replacing older electronic water pumps with frequency-controlled new ones, or using LED spotlights to light up the facades at the Bad Münder headquarters.

Wilkhahn's goal over the next few years is to use 5 percent less electricity again with comparable sales. The sales and consumption figures at the Wilkhahn headquarters in Bad Münder in 2013 were selected as the points of reference.

#### **Material used**

The efficient use of materials in many Wilkhahn task and visitor chairs is already apparent in the understated design and also manifests itself in comparatively low weights. Since 2015, the IN office task chair has also had innovative three-dimensional movements thanks to Trimension<sup>®</sup>. At around 16 kg it's hardly any heavier than its predecessor, developed according to ecological criteria (in other words the classic Modus task chair which has been on the market since 1995).

A lot of Wilkhahn office furniture is so hard-wearing and maintenance-friendly that it lasts and lasts. Which is why in 2015 Wilkhahn extended the guarantee period to five years for many of its product families, which is way above the statutory guarantee period of two years<sup>1</sup>. As a result, material efficiency was increased 2.5 times.

If we change from a product- to a site-related look at quantities of material, another aspect takes centre stage. Because since 2011, Wilkhahn has been using around 50 percent more material at the headquarters in Bad Münder than between 2007 to 2010. Annual quantities rose from the figure at the time of around 2,000 tonnes to about 3,000 tonnes of material annually now. The materials used increased by approx. 40 percent when related to sales. As the materials used per task chair and conference table have basically remained constant since 2007, the change in sales in the conference, workplace tables and task- and visitor-chairs are the underlying reason.

When the use of materials increases, so do energy requirements required for manufacturing and transporting the parts too. Environmental aspects in the supply chain, such as waste or emissions, are also indirectly linked with the material used. Which is why Wilkhahn will in future be looking more closely at optimising the Wilkhahn supply chains.

#### **Transport packaging**

Transport packaging has been used at Wilkhahn for many years and optimised depending on the item shipped. The company had already developed its own reusable system back in the 1990s for transporting the Palette and Logon conference table ranges reliably to customers. When putting the company on a more international footing, the patented cotton and jute sleeves had to make way for packaging that had long become standard. Nevertheless, Wilkhahn still makes sure that packaging is non-toxic, easily recyclable and avoided if possible.

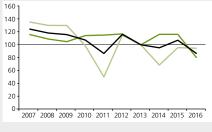
Packaging made from renewable materials accounted for over 85 percent of packaging over the past three years. It's also welcoming to note that after years of steep increases in the need for packaging and the peak in 2013 quantities are now in decline again. In 2016, the amount of packaging sank by 19 percent compared with 2013 and by 29 percent when related to sales due to better manufacturing and shipping processes.



<sup>1</sup> The Wilkhahn guarantee policy can be downloaded at www.wilkhahn.com.

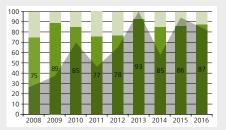
Emissions of organic solvents (VOCs)

Index value (reference year 2013 = 100)



- Solvents (VOCs) from coating wood/composite wood materials in t/a
   Solvents (VOCs) from bonded coatings in t/a
- Solvents (VOCs) from bonded coatings in t/
   Total solvent emissions (VOCs)

**Development of packaging quantities** Index value (reference year 2013 = 100)

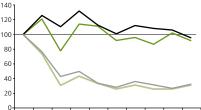


Development of packaging quantities (2013 = 100) Transport packaging made of plastics

 Transport packaging made of renewable materials (wood, cardboard)

Development of waste 2007-2016

Index value (reference year 2007 = 100)



2007 2008 2009 2010 2011 2012 2013 2014 2015 2016

- Total waste
- Hazardous waste
- Waste (according to groups)
- Hazardous waste (according to groups)

#### Solvents (VOCs)

Organic solvents are used as technical auxiliary materials, in cleaning agents, varnishes or adhesives etc. Their volatility, in other words property to vanish into the ambient air, means they are quick to use and high in quality for technical processes.

From a health and safety standpoint, organic solvents (or VOCs for short) are however critical and require safe working conditions. Wilkhahn ensures that VOCs are safe to use by employing a range of organisational, technical and personal protection measures, such as providing separate rooms for working with solvents, air suction and filter systems and the right protective clothing for all employees.

Adhesives are avoided and solvent-free wood glues used as far as possible so that Wilkhahn office furniture doesn't contain or emit any solvents in harmful concentrations. Furthermore, Wilkhahn office furniture is regularly tested for emissions of pollutants. The American Greenguard<sup>®</sup> standard guarantees that very high stipulations on indoor air quality are met.

It's pleasing to note that solvents emitted at the Wilkhahn headquarters have been at a low level and in decline for years. In 2016 an average of 30 kg of VOCs were emitted per working day (15 kg of which were for upholstery and varnishing). Annual emissions were only 6,640 kg and at 13 percent below the figure for 2013 and 30 percent below the figure for 2007 even. When developing new conference solutions, tables and office chairs, Wilkhahn still places top priority on avoiding solvent emissions.

#### Waste and recycling

In 2016 around 468 tonnes of waste were produced at the Wilkhahn headquarters in Bad Münder. The total decreased by 10 percent compared with the previous year. Cardboard and cardboard boxes, which are fully recycled, accounted for just under a third (31.5 percent). Waste wood from wooden panels and pallets accounted for another third (31 percent). All in all over 97 percent of residues were either recycled or used for energy. The annual quantity of hazardous waste, which has been under 20 tonnes for years, rose slightly (due to sales) to 19 tonnes again in 2016.

By introducing a reusable system for delivery packaging Wilkhahn will optimise waste quantities even further from 2017.

#### Water, soil, biodiversity

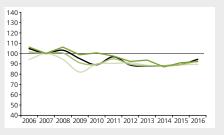
There was no negative impact on the water, soil or biodiversity at the Wilkhahn headquarters in Bad Münder. Water at the Bad Münder headquarters is primarily used for sanitation and only a very small proportion as process water for powder coating. At its headquarters, Wilkhahn only uses



water from the local water network. All of the waste water is retreated, about 15 percent of the water used evaporates. In 2015, damage to a pipe, which was detected too late, caused a high level of water consumption. Water requirements at the Wilkhahn headquarters are normally low and about a fifth lower than in 2007. Maintenance is carried out regularly on all machinery that could have an impact on the quality of the water and soil and checked to ensure compliance with statutory regulations.

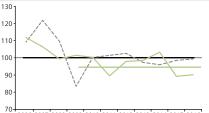
With its green spaces, ecologically designed fire-extinguishing pool and little fruit orchard, Wilkhahn headquarters in the primarily rural area of Bad Münder have a particularly natural appeal. No new areas have been sealed over the past 20 years. Wilkhahn also supports a regional initiative to save the dwarf beech (Fagus sylvatica var. suentelensis) from extinction.

Energy efficiency (production and management) Index value (reference year 2007 = 100)



- Heat consumption (seasonally adjusted)
- Electricity consumption
- Total energy consumption (seasonally adjusted)
- Reference year 2007
- Heat consumption

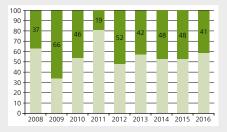
**Development of relative electricity consumption** Index value (reference year 2010 = 100)



2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016

- Environmental goal: 5% less electricity consumption (compared with consumption + sales 2010)
- Electricity consumption index 2 (consumption/sales; 2010 = 100)
- Electricity consumption index 1 (consumption figures 2010 = 100)
- Index year 2010 (index = 100)

#### Proportion of energy from renewables



Renewables (biomass, photovoltaics, solar-thermal power) in %

Fossil fuels (heating oil) in %

## Sustainability programme of action.

For many years sustainability at Wilkhahn has meant much more than developing innovative, long-lasting and well-designed office furniture by using eco-friendly materials and production methods. The new "Programme of action for more sustainability" is based on Wilkhahn's approach that business success can only be achieved long term if we are fair to people and the environment. The action programme will run from 2017-2019 and aims to achieve improvements in climate protection, energy- and water-efficiency and in sustainability of the supply chain and fostering good health. Because there's still room for improvement, even in things that are good already.

No.	Goal	Measure	Status	Date	Responsible
1		Use CO <sub>2</sub> -neutral district heating generated from biogas and maximise its share in total heating requirements.	Ongoing	2017	Head of works technology
2	Protecting the climate, CO <sub>2</sub> avoidance:	Reduce consumption of heating oil and the associated $\mathrm{CO}_2$ emissions by 5% by integrating an external warehouse.	Started	2019	Head of works technology
3	<ul> <li>replacing heating fuel at the Bad Münder by renewables (at least 50% from 2018),</li> </ul>	Continue to cut absolute power consumption of Wilkhahn vehicle fleet by introducing energy-efficient vehicles with low exhaust emissions	Started	2019	Vehicle fleet manager
4	<ul> <li>the CO<sub>2</sub> emissions by the vehicle fleet are to be decreased by 20% by 2019</li> </ul>	Draw up a concept for using electric and hybrid vehicles.	Started	2017	Management appointee
5	(compared with the 2013 reference year),	Logistics services provides appointed use energy-efficient and low-emission vehicles (at last Euro 5 exhaust gas standard).	Ongoing	2017	Material management head
6	<ul> <li>the CO<sub>2</sub> emissions during deliveries are to be cut further.</li> </ul>	By optimising tours, the loading volume per lorry used will be increased to at least 85% by 2018.	<b>Started</b>	2018	Material management head, Chief Operations Officer
7		Better packaging units and sizes allow safe and volume- optimised dispatch.	Ongoing	2017	Product development, process planning, material management
8		Use LED lighting in selected production areas.	Started	2018	Head of works technology, company technicians
9	Energy efficiency in these cases: to cut relative electricity	Draw up and implement an energy-efficient lighting concept for the Wilkhahn showroom in Bad Münder.	Started	2018	Head of works technology, company technicians
10	consumption by 2019 by 5% (compared with the reference year 2013).	Replace older compressed-air compressors with new energy- efficient ones.	Implemented	2017	Head of works technology
11		Check compressed-air devices regularly for leaks.	Ongoing	2017	Head of works technology, company technicians
12		Develop innovative, long-lasting and repair-friendly office furniture and use eco-friendly materials and product methods low in pollutants.	<b>O</b> ngoing	2017	Product review, product development
13	<b>Optimise use of materials:</b> long-lasting and repair-friendly products, materials low in	Switch partial deliveries to reusable packaging systems to reduce packaging waste.	Started	2018	Material management head
14	pollutants, less delivery packaging, fewer remnants.	Permanently cut down on material waste in manufacturing by introducing a quality bonus incentive system.	Granted Started	2017	Chief operations officer
15		Reduce water consumption in the sanitation areas by using pressure regulators in taps.	In planning	2017	Head of works technology
16		Sustainable supply chain: make regular checks on the top 20 suppliers re quality, health and safety and environmental protection as well as fair working conditions.	Ongoing	2017	Quality control, management appointee
17	Encouraging sustainability in the supply chain, fairness and health.	Maintain chain-of-custody certification in line with the specifications of the Forest Stewardship Councils® (FSC).	<b>O</b> ngoing	2016	Management appointee
18		Carry out regular health days at the Bad Münder headquarters.	<b>O</b> ngoing	2017	Company health management team
19		Maintain and develop health-boosting programmes for Wilkhahn employees.	<b>O</b> ngoing	2016	Company health management team
20		Continued support of the dwarf beech initiative to protect biodiversity.	<b>O</b> ngoing	2017	Management appointee

## Material- and energy-flows: Input/output.

Input	2014	2015	2016
Raw materials and consumables (t)		702.0	661.1
Ferrous metals Aluminium	675.7 584.2	702.6 658.8	661.1 497.8
Zinc	44.8	51.8	497.8
Wood	352.8	308.7	329.1
Laminates (HPL)	35.8	35.4	38.6
Plastics	579.1	902.7	934.5
Textiles/upholstery materials	29.3	19.2	23.9
Leather	17.7	18.6	16.0
Transport packaging (cardboard/wood)	251.5	406.5	349.9
Transport packaging (plastics)	43.5	64.2	52.2
Powder varnishes	3.7	4.1	5.6
Fuels (heating oil, diesel)	273.0	283.8	320.7
Energy – production and management (MWh)	1010	5.246	5 45 4
Heat	4,818	5,316	5,454
Electricity	2,187	2,251	2,272
Total energy consumption	7,004	7,568	7,726
Water (m <sup>3</sup> )		7.000	2.60.1
Water (sanitation, process water)	3,305	7,692	3,604
Output	2014	2015	2016
Residues and waste (t)			
Industrial municipal waste	71.23	93.7	98.4
Paper/cardboard	147.33	164.7	147.6
Wood/sawdust	135.7	191.6	144.7
Ferrous metals	26.8	25.7	18.6
Aluminium	23.2	8.1	4.0
Packaging film	6.0	9.0	9.5
Leather	10.1	7.9	10.8
Textiles/upholstery materials	2.3	4.6	4.6
Mixturescontaining solvents (VOCs)	1.0	2.0	1.8
Aqueous waste, halogen-free treatment emulsions	8.6	7.8	13.5
Others	9.1	7.6	14.6
Total residues and waste	441.3	524.0	468.1
total hazardous waste	15.3	15.4	19.1
Energy from renewable sources (%)			
Heat	58	57	48
Electricity	25	25	25
Total	48	48	41
Emissions (t)			
Carbon dioxide (CO <sub>2</sub> )	2,303	2,103	2,247
Solvents (VOCs)	7.3	8.2	6.6
Dusts (PM)	<0.01	<0.01	<0.01
Nitrogen oxide (NO <sub>x</sub> )	0.2	0.2	0.27
EMAS core indicators Total value creation (EUR millione)	<b>2014</b> 22.8	<b>2015</b> 28.3	<b>2016</b> 28.7
Total value creation (EUR millions)	22.8	28.3	28.7
Emissions Carbon dioxide (t/million euros)	101.1	81.3	80.3
Energy efficiency (MWh/million euros)		01.5	50.5
Electricity and heat consumption	307.4	267.1	269.3
Energy from renewables	146.3	126.9	110.5
Material efficiency (t/million euros)	1-0.5	.20.5	. 10.5
Total consumption of feedstock and supplies	126.9	122.0	114.4
Total waste	19.4	18.5	16.3
Hazardous waste	0.7	0.5	0.7
Water (m <sup>3</sup> /million euros)	0.7	0.5	0.7
Total consumption	145.0	271.5	125.6
		271.3	125.0

## GRI standards on sustainability reporting.

This report is drawn up based on the EMAS regulations and following the standards on sustainability reporting specified by the Global Reporting Initiative (GRI). The following table shows which pages of this sustainability report contains information that complies with standardised GRI descriptions. The column on the left shows the GRI standard referred to. The content matter relevant to EMAS has been validated by an independent environmental expert.

Organisational profile         4.36           102-1         Company's name         4.36           102-2         The most important brands, products and services         4           102-3         Company's head office         4           102-4         Countries with major operations         4           102-5         Legal form and owner structure         4           102-6         Key markets         4           102-7         Company's size         4           102-9         Description of the supply chain         22-23           102-11         Implementation of the precautionary principle         22-31           102-12         Support to external initiatives         19-31           102-13         Memberships         19           102-14         Declaration by the top decision maker         1           102-15         Central sustainability effects, risks and opportunities         2-32           Ethics and integrity         2-7, 18-19         1           102-15         Values, principles and codes of conduct         2-7, 18-19           102-14         Values, principles and codes of conduct         2-7, 18-19           102-15         Values, principles and codes of conduct         2-1, 18-10           102-16	General s	andard information	Page
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With its EMAS-validated and ISO 14001 certified environmental management system, Wilkhahn is taking responsibility for sustainably protecting our environment.

In the consolidated environmental statement that covers 2017 – 2019, Wilkhahn reports on the company's environmental performance and other aspects of sustainability.

The next update will be published in April 2018.

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